

From: [Bird Morningstar](#)
To: Scoping_Delta_Plan@Delta_Council
Subject: Terry Macaulay / DSC / Written Comments
Date: Sunday, January 23, 2011 11:02:04 AM



Dear Terry Macaulay

I want to thank you for taking the time to read this letter; I know that your position demands a great deal of time and energy. However, I think that you will find this information vital to maintaining a clean and sustainable Delta. It is important to keep in mind that our responsibility for ensuring the water quality and availability isn't limited to human use, our Delta is home to a great number of flora and fauna and these plants and animals also depend on this resource for their survival. I am sure that you are aware of the AB2717 provision passed in 2004, which requested the California Urban Water Conservation Council (CUWCC) to convene a stakeholder task force, composed of public and private agencies, to evaluate and recommend proposals for improving the efficiency of water use in new and existing urban irrigated landscapes in California.

The Task Force adopted a comprehensive set of 43 recommendations, essentially making changes to the AB 325 of 1990 and updating the Model Local Water Efficient Landscape Ordinance. The recommendation of the bill charges DWR to update the Model Efficient Landscape Ordinance and to upgrade CIMIS.

I am writing to you today to give you some feedback on AB 1881, which as you know, requires all water districts in the state to adopt an effective Water Management Program by the year 2020.

My understanding is that unless another program is adopted, the statute will enforce the use of ET Controllers, as AB 1881 requires local agencies to adopt the updated model ordinance or equivalent or it will be automatically adopted by statute.

Over the last 2-3 years there has been a state-wide program to evaluate "Smart" Controller Programs. This program is intended to last up to four years. An ET controller is simply a control box for use on outdoor irrigation systems and is designed to deliver only the amount of water needed to a specific plant based on input variables such as plant type, soil, grade, and weather. ET is short for evapotranspiration. A CIMIS station records weather data and transmits the estimated ET rate to ET controllers via satellite. The idea is to allow residents to replace the

exact amount of water lost by evapotranspiration on a day-to-day basis for more efficient irrigation. It is a fantastic idea, in theory; however, a recent report found that the ET Controller Program doesn't work as well as anticipated.

It is unfortunate that AB 1881 was not voted on until the ET Controller Report was published, because there might have been some recognition that the ET Controller does not perform as effectively in residential use. It is also difficult at this point to determine whether or not this will be the most effective technology available in 2020. Unlike most state regulatory schemes for local implementation, AB 1881 follows the 1990 precedent by requiring local officials to adopt and enforce state-prepared standards before they're officially written. It is also strange that the opposition for the bill is listed as "unknown^[1]." The online dictionary defines 'unknown' as "not discovered, explored, identified, or ascertained^[2]." I would have preferred use of the word "none," as there would have been some clarity, but instead I must ask how a bill of this nature can be ratified with "unknown" opposition? Additionally, when it comes to landscape water conservation, the Legislature has required counties and cities to follow the state's standards even before legislators had a chance to review them. One example is, *Evaluation of California Weather - Based "Smart" Irrigation Controller Programs/ Final Report*.

The report shows that over the last 2 years for the 2,294 smart controller sites in Northern and Southern California (both commercial and residential), the average savings was only 6.1% for outdoor use. That savings breaks down to 6.8% for Northern California and 5.6% in Southern California^[3]. That's not a significant savings when you consider the amount of energy and effort required to make this program work. As you read the report, it is clear that the evaluators found the poor performance to be within an acceptable range and feel that despite the low numbers, the program should go forward. However, this savings is not adequate for the sustainability of our Delta. Certainly some of the numbers look great, if you exclude other Water Management Programs. For example, Contra Costa Water District, the district that I reside in, mandated that their clients to reduce their water use by 15% and many of the homeowners in the district saved as much as 18% to 20% without the use of a "Smart-Controller."

Of the 2,294 smart controller study sites in Northern and Southern California (both commercial and residential), 411 were installed in Northern California, and 1,883 were installed in Southern California. From my assessment of the report, it seems obvious to me that the research was skewed toward Southern California, which varies significantly in climate from Northern California. It also seems that the data is skewed toward commercial sites rather than single-family homes in Northern California. Only 295 single-family homes had ET Controllers installed in Northern California, while Southern California had 1,692 single-family homes with ET Controllers installed. The overall savings of 6.1% for the state seems paltry in comparison to the expense of wide-scale installation of these systems. Unfortunately, ET works on the assumption of a single crop rather than multiple crops. It simply makes no sense for a homeowner with a multi-plant landscape to use this system as the "Smart-Controller" assumes an ET rate for the plant that uses the most water, therefore wasting water.

As the report continued the biggest question seemed to be, whether the time and money required for the use and installation of the "Smart-Controller" would be worth it to homeowners in the long-term, and 46% of respondents said that they would exchange their "Smart-Controller" for a non-smart controller. It seems to me that it would not be wise to pass legislation to enforce the use of a device that saves less water and costs more to maintain than the systems that your

constituents currently use. I refer you to Table ES.3 from page xix of the ET Controller Evaluation Report which I've enclosed at the end of this letter. I have also included a link to the report for your review. When you review the table you will find that my water department, the Contra Costa County water district had 32 smart controllers installed and their savings came to 2.1%. Clearly all statistics should be taken with a grain of salt, but this example gives you an idea of how well the ET Controllers will perform in our district. Out of the 2,294 smart controller sites, there were just over 1,000 responses. For some of the questions as few as 9 participants responded. In the study, several sites either used more water or the savings were not significant. Several participants were also put off by the monthly fee involved with the program and 65% said they would not purchase an ET Controller because the costs outweigh the benefits. I know you are busy and I admire the hard work you are doing for your constituents, but I urge you to read this report thoroughly before making any further decisions with regard to AB 1881. If you have any questions, I would appreciate hearing from you because your input is important to me. In the final analysis, my only question is this, why force your constituents to spend additional time and energy to implement a water management program that drastically underperforms the program that they currently use?

Sincerely,
Bird Morningstar
The Happy Gardener

[1] AB 1881 Assembly Bill Analysis

Retrieved from <http://info.sen.ca.gov/pub/05-06/bill/asm/ab_1851-1900/ab_1881_cfa_20060622_142027_sen_comm.html>

[2] "Unknown" Retrieved from <<http://dictionary.reference.com/browse/unknown>>

[3] The Metropolitan Water District of Southern CA and The East Bay Municipal Utility District. (July 2009). *Evaluation of California Weather-based "Smart Irrigation" Controller Programs*. (pp. 19-87). Retrieved from
<http://www.aquacraft.com/Download_Reports/Evaluation_of_California_Smart_Controller_Programs_-_Final_Report.pdf>

Evaluation of California WBIC Programs 7/1/2009

Aquacraft, Inc. Water Engineering and Management xix

Table ES.3: Weather-normalized change in water use volume (kgal)

Weather-Normalized Change in Outdoor Use

Descriptive and Validatory Statistics

Site Locations N Mean Std.

Deviation

95%

Conf.

Boundary

Statistically

Significant

Reduction?

%

Change

Saving

All Sites 2294 -47.3 669.5 27.4 Yes -6.1%

Northern Sites 411 -122.2 1305.2 126.2 No -6.8%
 Southern Sites 1883 -30.9 416.5 18.8 Yes -5.6%
 Coastal ET Zone 655 -42.5 399.3 30.6 Yes -7.6%
 Intermediate ET Zone 1444 -52.2 756.7 39.0 Yes -5.8%
 Inland ET Zone 195 -26.2 707.4 99.3 No -4.5%
 Pro. Installation 920 -38.3 599.0 38.7 No -3.6%
 Self Installation 1374 -53.2 712.8 37.7 Yes -9.0%
 Commercial 296 -228.9 1783.8 203.2 Yes -5.6%
 Irrigation 11 108.3 231.1 136.6 No 10.9%
 Residential 1987 -21.1 197.0 8.7 Yes -7.3%
 Alameda County WD 5 -83.6 81.2 71.2 Yes -18.5%
 Burbank 76 -19.0 49.1 11.0 Yes -18.4%
Contra Costa WD 32 -15.1 268.3 93.0 No -2.1%
 Eastern 87 -110.6 284.5 59.8 Yes -18.7%
 EBMUD¹ 333 -70.0 499.0 53.6 Yes -5.8%
 Foothill 245 -7.8 34.6 4.3 Yes -10.2%
 Glendale 109 -5.3 12.9 2.4 Yes -18.0%
 Goleta 26 -32.6 230.2 88.5 No -3.3%
 Inland Empire 186 -61.6 93.7 13.5 Yes -41.6%
 LADWP 477 -25.4 600.9 53.9 No -5.5%
 Pasadena 17 -353.6 956.2 454.6 No -8.5%
 Santa Barbara 73 -90.2 259.2 59.4 Yes -14.7%
 Santa Monica 71 5.7 41.3 9.6 No 3.9%
 Santa Clara Valley 34 -694.9 4254.5 1430.1 No -8.1%
 Sonoma County WA 7 -340.9 753.9 558.5 No -10.9%
 San Diego County WA 401 -7.4 117.7 11.5 No -4.4%
 Western 115 -44.2 1007.4 184.1 No -1.0%

The overall impact of smart controllers installed in this study was to reduce irrigation demands, but the results suggest that those who historically apply less than the theoretical irrigation requirement for their landscape are likely to increase water use after installing a smart

controller. The Application Ratio is a measure of how closely irrigation applications at a site matched the theoretical irrigation requirement determined from proximal ET weather stations. The level of excess or under irrigation (pre-AR) prior to the installation of the smart controller

was the most important factor in determining if a site increased or reduced water use with the

¹ In 2007, EBMUD requested a voluntary 10% cutback in usage from customers in response to drought conditions. Some of the post-installation water use data from EBMUD came from this time frame. It was not possible to determine if this effort impacted water savings in this study.